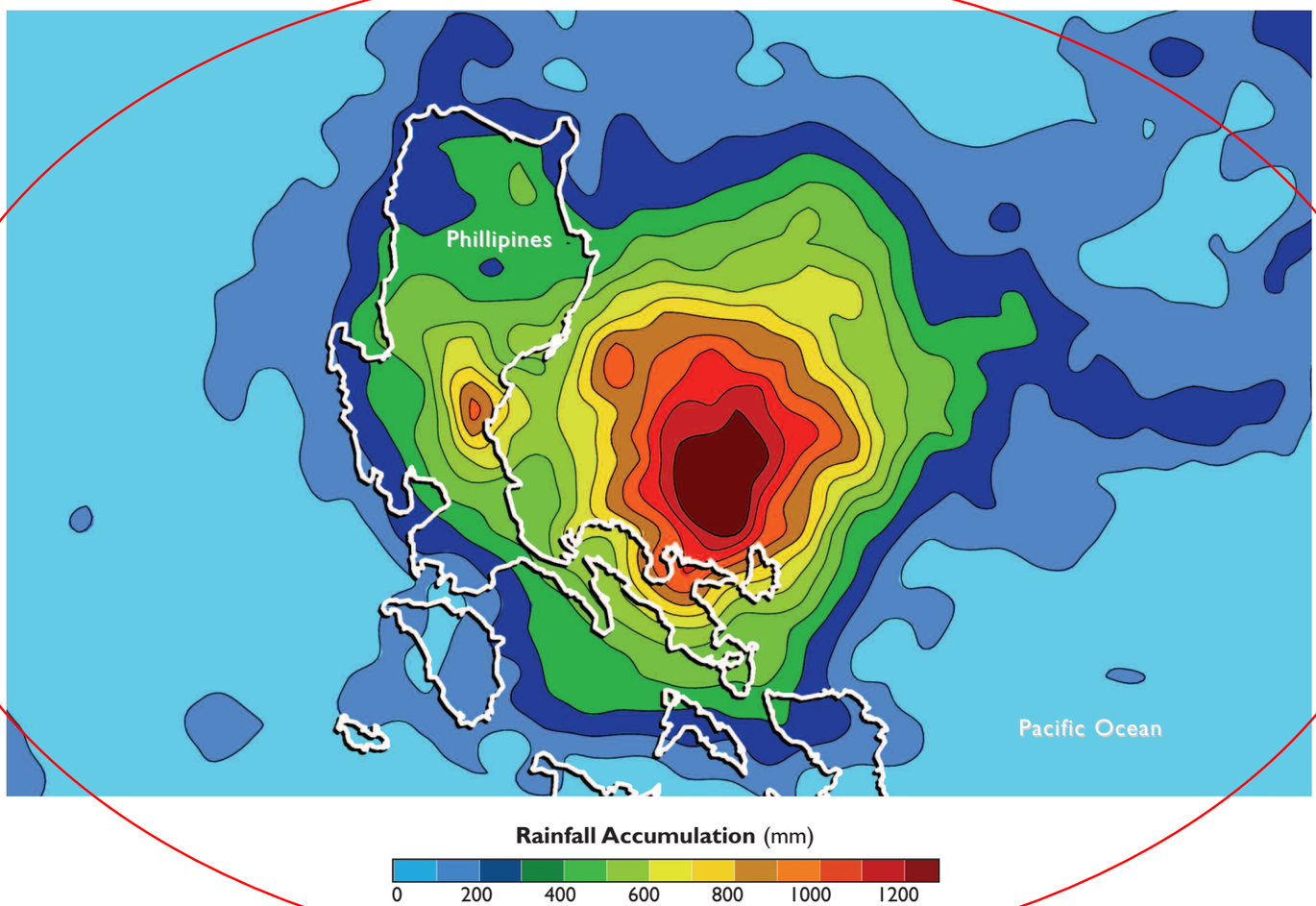

A multi-satellite precipitation analysis of heavy rains falling over the Philippines in a two-week period (November 16 to December 3, 2004) during which a series of four tropical cyclones passed over the island nation. (Data from multisatellite precipitation analysis, visualization by Hal Pierce).

within dust clouds, or dust tendrils are pulled into the vortex, hurricane formation is suppressed. Storms may be weakened by some combination of processes, including unusually dry air associated with the dust, the strong winds aloft that carry the dust, or the influence of the dust particles themselves on microscopic water droplets. It remains to be shown by the emerging discipline of 'tempestology' whether prolonged periods of African drought—which would favor an abundance of dust crossing the Atlantic—are associated with reductions in hurricanes impinging on the United States.

Against this backdrop of variable factors, there is an underlying rhythm governing Atlantic hurricane intensity and frequency that occurs over decades. When one examines the historical record of Atlantic hurricane activity, there are distinct cycles of heightened occurrence that last 20–30 years. These alternate with more quiescent periods of similar duration. For instance, the 1940s through 1960s saw a period of intense hurricane activity, with many damaging storms impacting the United States. Conditions slowed during the 1970s and 1980s. Starting in 1995, with a near-record 19 named storms, it appears that the Atlantic has entered a resurgence of storm frequency. The cycles of storm frequency appear to be related to slowly varying patterns of ocean surface temperature, as hurricanes are fueled by warm ocean water and the moisture evaporated from it. The Atlantic cycles are also phased with periods of alternating drought and abundant rainfall across the African Sahel. Years of rainfall that are below average imply that weaker seedlings or precursor disturbances are emerging from Africa, while years of abundant rain signal more vigorous waves. The more pow-